



ADDRESS TO STUDENTS. Delivered by Mr. JOHN SLATER, B.A.Lond., *Vice-President*,
at the General Meeting, Monday, 3rd February 1902.

THE architectural student of to-day, if he takes an intelligent interest in the history of his art, must be much impressed and somewhat puzzled to notice how very fluctuating and short-lived have been the various fashions of architectural taste during the last hundred years or so. If he looks to ancient times, when the world was young, and what Lord Leighton calls "the spirit of spontaneous, unquestioning joy in production" was paramount, this was not the case. The styles of architecture which the early building peoples evolved for themselves to suit the vicissitudes of climate, the varying necessities of their public and private life, the nature of the building materials found in the country, and various other local conditions—whether you turn to Egypt with its colossal and gloomy avenues of sphinxes and columns, or to Assyria with its glazed tile decorations and mural tablets depicting in realistic fashion all the daily occupations of its kings, or to Persia with its lofty tapering columns and pillared halls such as we see at Persepolis—these styles, I say, persisted with slight variations for centuries, and only died with the decay of the nations themselves. When we come to Greece, we know that at the beginning of the sixth century B.C. the splendid temples of Artemis at Ephesus, and of Herè at Samos, were commenced, and we can only imagine what a length of time must have elapsed from the erection of the earlier and simpler Doric temples before these two magnificent buildings could have been possible. The Doric and the Ionic styles flourished contemporaneously, and the latter merged into the Corinthian, the earliest example of which is the Choragic monument of Lysicrates, which was built in B.C. 335. When the Greeks began to plant colonies along the Italian littoral, numerous temples sprang up there, and the Romans became familiar with Greek architecture, which they naturally adopted, with modifications and variations, and this variant of the classic style prevailed during the continuance of the Roman Republic and under the Emperors, not only in Rome itself, but in the numerous colonies which she founded, and the ruins of the Roman edifices served as the pattern for the debased classic buildings which were erected during the earlier centuries of the Christian era. Passing through the Romanesque, we find Pointed or Gothic architecture fully developed in England and on the Continent—except in Italy, where the classic traditions lingered longest—by the end of the twelfth or the beginning of the thirteenth century, and from then down to the middle of the sixteenth century this style with its developments and modifications held the field until the revival of letters led to that renaissance of classic taste which stamped its mark on the architecture, the literature, and the painting of the next two hundred years. Since then all has been changed. In 1830 Quatremère de Quincy published his work on the lives of the most celebrated architects, and he uses these words in his introduction: "As we only recognise

as the true Architectural Art that which—alone among all known methods of building—owes its origin, its progress, its principles, its laws, its theory, and its practice to the Greeks, and which, handed on by the Romans, has become that of the greater part of the civilised world, we must forewarn our readers that no mention will be found in our treatise of any work or of any architect of the kind called Gothic."

In 1827 was published a work illustrating the recent buildings erected in Regent Street and on the outskirts of Regent's Park, and speaking in terms of no stinted praise of the excellence of the designs. Yet in 1836, when the Houses of Parliament were in course of erection, we find the Gothic style to the fore. In 1867 the competitive designs for the new Law Courts were sent in, to the number of eleven: every one of these—except one alternative design submitted by Mr. Garland—was in the Gothic style, and Mr. (afterwards Sir) Gilbert Scott in his report claimed for the Gothic style that it afforded the greatest facilities for the developments suggested by modern requirements, modern materials, and modern modes of construction. A generation later what do we find? You are all of you acquainted with the storm which was raised a few weeks ago against the Liverpool Cathedral competition, and I need not quote the opinion of a distinguished modern architect as to the competency of the Gothic style to meet the requirements of to-day! Now I think it very probable that all this may lead an architectural student to exclaim: "A plague on both your houses! Why should I bother my head with learning anything about Classic or Gothic, Romanesque or Renaissance? All art is ephemeral; utilitarianism is the only guide. These styles are now all dead, and will give me no help towards designing a town hall, an infirmary, or a modern residence." Now I do not think it can be too strongly impressed on those who may be disposed to hold such views that they will be utterly wrong if they take this line. What is it that stirs the emotions even of the unlettered man when he gazes down a vista of columns, gigantic and awe-inspiring, in an old Egyptian temple, or looks upon the perfect grace of the Parthenon, or the stupendous relics of mighty Rome, until, as Byron says,

the place
Becomes religion, and the heart runs o'er
With silent worship of the great of old;

or when in some old mediæval cathedral, where

The blessed saints are smiling dumb
From the rich painted windows of the choir
On aisle and transept,

he looks up to the springing arches and intricate ribbed vaulting—what, I say, stirs the emotions but the feeling that, different as may be the forms which present themselves, there is such fitness in the purposes of each and in the connections of all the parts with each other, such perfection in the combination of form and colour, that the net result in every case is beauty? And if this emotion is excited in the untutored breast, even though it may fail to find expression, is it not more so in that of the artist? and ought he not to study reverently and carefully the older styles, not with the idea of slavishly imitating them, but with the desire to enter into their spirit, to see what were the aims with which the old masters of the building craft worked, and upon what the beauty of the result depends? The buildings which have attracted and which will attract the most universal admiration are not those at the sight of which we exclaim "How enormous!" or "How wonderfully clever!" but those which are beautiful; and whenever you meet with a building, large or small, new or old, which attracts you as being beautiful, study it carefully, not in the mechanical spirit of the anatomist who is dissecting a dead body, but with wise and loving sympathy and reverent tenderness. I am

old-fashioned enough to think that an architect ought to try to make his building beautiful, and that a protest should be made against what appears to me to be the cult of ugliness which has been growing of late years. There is too great a tendency nowadays to mere eccentricity and originality among the younger men. There have been several buildings erected lately the cleverness—I had almost said the infernal cleverness—of which cannot be denied for one moment; but are they beautiful? There is far too much straining after effect, too great eagerness to achieve something not attempted, or at any rate not achieved, before; and, as has been well said, “when the achievement becomes obvious, is it not by way of becoming uninteresting?” I am not arguing in favour of a dead level of monotony, which is uninteresting even if the level be a high one; I have no love for the stereotyped style of art which the Continental methods of education and study too often result in. If a man be a true artist his individual emotions, the bent of his mind, all the idiosyncrasies of his character are bound to come out in his work; but do not let your main idea and aim be to display your idiosyncrasies. In this connection I cannot do better than quote some words recently used by Sir Edward Poynter in addressing the students of the Academy. He said: “The desire to be original is a constant besetment of the young artist, but unless founded on a solid base of knowledge and study it is apt to lead to mere eccentricity, and to show a desire to astonish rather than to command that legitimate admiration which sensible people would give to all well-considered and thoughtful work; and there is perhaps nothing more distressing to the intelligent observer of a work of art than an evidence of the desire to be original at all costs, where there is neither genius nor knowledge to support it.” These words cannot be too closely pondered on and taken to heart by every artist, and especially by architects to-day, who are too apt to think that the rays which fall from the new electric lamp of eccentricity have extinguished all the beams of the old Seven Lamps. A real genius may be original because he has the knowledge and the power to work out his original ideas, but what can be more contemptible than to see the weak, jejune, and spiritless attempts to copy what may be admired as an original work of genius, while the copy only shows the lack of genius in its exponent? In literature we admire Carlyle because of the intense earnestness which is everywhere to be found behind the rough and somewhat uncouth language which he employs; but of those who have tried to imitate Carlyle what shall we say? “Non ragionam di lor, ma guarda e passa.” Your buildings are the vernacular in which you have to express the architectural ideas which are in you; and, depend upon it, the simpler and more direct that language is, the more eloquently will it appeal to the world. Be assured, therefore, that the time you may spend in studying old work will never be wasted, that such study will but brace your pinions and fit you better to soar into the heights which science is opening out for you. And further, the study of old work will teach you another most important lesson—never to lose sight of the nature of the material in which you are working. In the best old work the material is never tortured: one form of ornamentation and enrichment is suitable for stone, another for brick, and another for wood; and this was always lost sight of when art became debased, with the result that a mere *tour de force* is attained, from which, however much we may admire the skill which produced it, we turn with relief to the simpler, truer, and more legitimate methods of treatment.

Before I leave the subject of what I may call your intellectual equipment for the career which you have chosen, let me urge you to cultivate an easy, terse, and direct literary style. When you get into practice you will have to write reports and to carry on daily correspondence on all sorts of subjects, and you should endeavour always to make your own meaning as clear as possible to those you are addressing. It often occurs to me how lamentably deficient in literary style are the majority of letters which one gets from architects. And here I cannot but express my regret, which is shared, I believe, by all members of

the Council, that we have been unable to award the Essay Prize this year. Here is an opportunity, which I should like to see more widely embraced, of carefully studying some subject given to you, digesting it, and then producing in your own words a dissertation on the subject, which should not be a mere *réchauffé* of what you have read, but an attempt to explain and to reason upon the theme which has been set you. I hope next year we shall get a much larger number of competitors for this prize. Also I would urge the younger members of this Institute not to neglect any opportunities you may have to practise public speaking. If any subject is treated in this room on which you have knowledge, I am confident your attempts to impart it will always be received sympathetically by the occupier of this chair, whoever he may be, and you will find it an enormous advantage to be able to express your ideas in public. I very much wish more of the younger men would take part in our discussions here. When you once get started in independent practice there will be hosts of matters coming before you on which you will only have your own judgment to guide you. You are sure to make some mistakes, but do not be unduly discouraged by them; you will learn more from mistakes than in any other way.

I must just say one word on what has been a vexed question ever since I took any interest in this Institute—I mean competitions. Whatever may be one's personal views on competitions, I do not for one moment suppose we shall ever get rid of them. From the point of view of the promoters, I do not think the best method of getting the most suitable design is by competition, because, however carefully you may draw your conditions, you can never embody in them all the small points which ought to be and would be considered by the designer if he were in constant touch with those whose requirements he is trying to meet; but from the competitor's point of view—painful as must be the aggregate waste of time and energy—it seems to me that there was a great deal of force in the remarks made by Mr. Wills a few weeks ago in this room. He said that a man starting in practice cannot possibly have his time fully occupied, and that he had better waste his time going in for competitions than in other ways, and there is no doubt you may learn a great deal by endeavouring to work out actual problems of design; but you ought to work them out conscientiously, and not slur over the difficulties, or you will be apt to get into slovenly ways of work, and there is always the danger of being led to put telling bits of design into the elevations without looking after the construction. And if you do go in for competitions, when the award is made I cannot help thinking the losers would best consult their own dignity by accepting their defeats in silence. Of course, I am assuming a conscientious assessor and promoters who mean loyally to accept his award. No words can be too strong to stigmatise cases in which assessors' awards are upset for no intelligible reason except nepotism; but I hope such cases are growing rarer, and this Institute is, I feel sure, always desirous of doing its best to keep competitions clean, fair, and above-board.

The field of an architect's practice is ever widening, and in fact it is now so extensive as almost to deter men from entering on it. All the new discoveries of science, which at first are simply laboratory experiments, are gradually made to subserve our daily needs and requirements, and as soon as this has taken place our clients expect us to advise them with reference to all new inventions, and you will find it to your great advantage to keep *au courant* with the times by noting, and, if possible, investigating, the utility of new inventions affecting architecture. But the powers of any individual are limited, and I feel sure that the near future will see a good deal of devolution of the manifold duties undertaken by architects. And I see no reason why this should turn out to the detriment of the architect. On the art side he can be associated with the sculptor, the painter, and the mosaic worker, and on the scientific side why not with the engineer? Quite recently this Institute urged the desirability

of associating an architect with an engineer in bridge design, and I am confident it would often be desirable to associate a professional civil engineer with an architect in the case of large buildings where difficult problems of support or construction have to be considered, the best arrangement of electric wiring, and so forth. I would be the last to undervalue the great assistance which an architect receives from what I may call the specialist manufacturers with whom we so frequently have to consult, but personally I am disposed to think the better plan would be to put their work under the direct supervision of a professional engineer, who could draw up the specification embodying the conditions under which the work is to be carried out. But this is a question which scarcely comes within the limits of an address to students. The very wideness of the field covered by an architect's practice, with all its manifold responsibilities, has, however, its compensations. As your practice increases you need never be haunted by the dread of monotony. Your work will probably take you afield into various parts of the country, and every fresh building which you have to design will present new difficulties as to site, aspect, accommodation, &c., which it is a never-ending pleasure to try to overcome. Architecture is so many-faceted, and touches so many planes of modern life—ecclesiastical, municipal, commercial, and social—that an architect ought above all other men to be broad-minded and to avoid anything like cliqueism or a haughty bearing towards his fellows. Remember that, however fascinating and lofty may be your designs, the effect of your buildings when finished depends not upon yourself, but upon the builder who carries out your designs, the foreman who looks after the work, and even the individual carpenter who fits a moulding or the labourer who mixes the concrete, and if you cultivate broad sympathies you will find all through your life that you will remain a student and will be learning lessons every day, and this will tend to keep your brain clear and your mind receptive.

In these few remarks I have endeavoured merely to touch upon some of the matters of interest to students as to which a word of advice or caution may be useful, but you must fill in the details yourselves, always remembering that so honourable and inspiring a profession demands that those who practise it should always uphold a high standard of honour among themselves.

In conclusion, let me heartily congratulate those of you who have come here to-night to receive the prizes which you have so thoroughly deserved. Mr. Hare will give you some detailed criticisms on the work which has been submitted, and I will only say that I think the collection of drawings which has been on view the last fortnight is a really remarkable one, and shows an aggregate of labour, study, and skill which cannot be too highly commended. And you who have not been fortunate enough to win prizes are also to be congratulated, for you have shown a steady perseverance in working out your designs which will certainly not turn out to be lost labour, and you will learn a great deal by observing how others have got over the difficulties which perplexed you. Do not be unduly depressed by your failures nor elated by your successes, but let each only stimulate you to further endeavours. I heartily wish you all possible success in your future careers.

REVIEW OF THE DESIGNS AND DRAWINGS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1902.

By H. T. HARE [*P.*]

THE duty of offering some remarks and criticisms on the designs and drawings submitted for the Institute Prizes and Studentships is in many respects a very responsible and onerous one. One cannot, in looking round the exhibition, fail to be struck by the vast amount of care and labour which the students who are competing have expended on their work, and it behoves the critic to weigh well his words that he may not on the one hand omit any beneficial criticism, or on the other discourage or misunderstand an earnest and meritorious worker. It is also to be borne in mind that the designs are the work of students, and must not therefore be judged with too great severity from a practical standpoint.

With these considerations before me, and remembering the many brilliant men who in former years have occupied my present position, I approach my task with some trepidation; being conscious that, though I have been accustomed to form opinions on the works submitted for these prizes, I have not hitherto had occasion to formulate those ideas in such a manner as shall make them intelligible to others.

The subjects included in the prize list of the Institute cover a very wide field, ranging from the literary side, as instanced by the Essay, to the eminently practical, as evidenced by the Grissell Medal. The study of old work is encouraged in the competitions for the Pugin Studentship and the Institute Medal, of colour in that for the Owen Jones Prize, while design, the ultimate end and aim of all these studies, is invited in the subjects given for the Soane Medallion and the Tite Prize. Any student who had taken, year by year, one of these subjects would, I venture to think, when the list was exhausted, have passed through a course of study which would be of infinite value to him in after years, and would equip him with a fund of knowledge which would stand him in good stead in the stress of practice, when little time or opportunity is left for theoretical study.

The standard of work submitted has always been a high one, the prize designs and drawings usually being among the most notable published during the year, and this occasion forms no exception. Except in one or two particulars, I think the work may bear comparison with the best of former years; indeed, some of it seems to me to be a step in advance.

I will take what is usually considered the most popular competition first in order. I refer to the Soane Medallion. The subject given, a large public swimming bath, with two or three accessory rooms, has attracted sixteen competitors. Although this is a rather less number than last year, it may be considered a satisfactory response, and it is gratifying to be able to say that the quality of many of the designs is much higher. Last year the Council felt compelled to withhold the medal, a course which must always be reluctantly taken; but this year there are several designs, any one of which might have received the award.

The site given being an open one, untrammelled by any restrictions, it is curious to note that out of the sixteen competitors no fewer than twelve should have preferred to arrange their main frontage and entrance at one end, the remaining four only utilising the side, the length of which I should have thought would offer the most architectural possibilities. The

end frontage and entrance have tempted many competitors to duplicate the accessory rooms asked for in order to balance the grouping, a license which was hardly contemplated and is barely legitimate. It is never intended that the schedule of accommodation should be strictly and rigidly adhered to, but it should not be necessary to vary it materially in order to produce a satisfactory design. These remarks apply with the greatest force to the prize design, that submitted by Mr. Fulton under the motto "Iona"; indeed, to such an extent has he exceeded the prescribed limits that the selection of his design was seriously jeopardised on this ground alone, and it is only owing to its undoubted superiority in other respects that it receives the award. This design is an extremely fine one from the architectural point of view, exhaustively thought out in every detail, brilliant in draughtsmanship, and though a little wanting in some respects in reticence and inclined to be overdone, still, taken all in all, a masterly composition reflecting the greatest credit on its author.

Two designs receive medals of merit, those by Mr. Moodie ("Tepidarium") and Mr. Detmar ("Balneæ"), both of which are excellent sets. Of the two I prefer the former, the management of the plan with the two enclosed courtyards being extremely satisfactory. The interior is also well designed, with an evident appreciation of architectural effect. In Mr. Detmar's design, the planning of the octagon hall cutting into the bath appears awkward, and the reason obscure. There is a touch of genius, however, in the open arch with a group of statuary between the hall and bath.

"Io" (Mr. Vincent Harris) receives honourable mention, and is a clever set of drawings. The interior of the bath, however, though well designed generally, appears to be insufficiently lighted. There are several other designs which may be examined without uneasiness, but it is impossible to particularise all that are worthy of note. I may, however, mention "Amphibious," a clever design of Spanish character; "Silhouette," with a wonderful coloured interior view, and "Roma." Several competitors do not appear to have realised that the treatment was intended to be architectural, and have regarded the problem as one to be solved by engineering rather than architecture, a mistake which ought not to be possible, for the one should comprise and be necessary to the other.

Few of the authors have successfully grappled with the difficulty of the dressing-boxes, which ought not to have been impossible of treatment if not regarded from a too practical standpoint. The chimney-stack has also proved a serious stumbling-block, and not a single author has attempted the solution by twin towers, which, in a Classical or Renaissance design, would, I think, have been a legitimate treatment. It is also difficult to see why so few of the best designs have introduced lighting from the roof, which is almost an essential in a swimming bath, and is surely not beyond the wit of man to compass without much sacrifice of appearance. One notices, with some interest, that the most successful designs are those which have drawn their inspiration from the Baths of Caracalla, a motive which bids fair to prove a sort of universal recipe for many of our problems, from a cathedral downwards, and one is fain to admit that a worse model might have been selected.

The drawings for the Tite Prize are this year disappointing, as, though the number of designs submitted is large, there is no single one among them which unmistakably excels; indeed, I may say that there is not one which can be regarded as quite satisfactory. The subject, a Royal Memorial Chapel, is a purely architectural one, calling for the highest development of the art, and the conditions supplied a plan which was one of Palladio's unworked-out sketches. Competitors were thus at liberty to devote the whole of their thought and study to the architectural treatment of the subject, and it was fully expected that at least one or two very fine designs would have been elicited, especially as so much attention is at present being devoted to Italian architecture. I should here like to explain that the Tite Bequest was made

with a view to promoting the study of Italian architecture, and by that should be understood the architecture of Palladio and his contemporaries and followers. This does not appear to be clearly realised by many of the competitors, and year by year the Council are compelled to pass over a number of very excellent designs because they do not fulfil this essential condition.

The design which receives the award this year, "Lion Heart," by Mr. C. Gascoyne, may be said to owe its position rather to negative than positive merit. While it fails in dignity and impressiveness, it is the design against which the fewest objections can be urged on a careful examination of its details. The dome cannot, however, be said to be strictly Italian, and its outline is not very pleasing, and the entrance portico or porch is open to criticism for the manner in which the columns are introduced on each side of a narrow rusticated pilaster. The drawings are well thought out, and the design of the interior is satisfactory.

"In Memoriam," by Mr. Andrew Hutton, receives a medal of merit, and is the most striking design submitted, the perspective being decidedly powerful. There is a great deal of very clever work in this set of drawings, but the dome and drum are disproportionate to the substructure, and the entire composition is overpowered and crushed. The author has evidently considered that light is not essential in the interior of such a building, and the central space under his dome would be gloomy in the extreme.

Three designs receive honourable mention—those submitted by "Marble," "Shamrock," and "Rex." These, while being excellent in some particulars, all fail in some important respects. "Marble" (Mr. Curtis Green) has a well-proportioned exterior, though the architecture is not quite Palladian. The interior is, however, not up to the standard of the exterior, and is in many respects weak in design. "Shamrock" (Mr. E. C. Power) has the best interior of the series, but the introduction of rustication internally may be questioned. The exterior does not appear to have been sufficiently studied in its proportions, resulting in a somewhat clumsy outline; and although in this competition one does not look too critically into questions of construction, I may be permitted to point out that no effort of engineering could ever induce the dome to stand as shown in the section. "Rex" (Mr. A. R. Gough) has a well-executed set of drawings illustrating a design of good and pleasing proportions. The introduction of the two towers or campanili in such close proximity to the dome cannot be considered a satisfactory composition. The dome and other portions of the building are reminiscent of St. Paul's, but the details are weak, and the whole somewhat lacking in vigour and originality.

There are several other designs worthy of note, but which time prevents me from mentioning more particularly. It is curious to observe in looking round the designs how many which are in other respects clever and meritorious have failed in their general proportions, the tendency being to exaggerate the size of the dome and drum. This is specially noticeable in the case of "Gibbs," which but for this fault would have occupied a high place in the competition. Many of the authors have drawn upon the buttresses and other features of Sta. Maria delle Salute, a rather dangerous source of inspiration, in spite of its extreme picturesqueness in its own particular position.

The Grissell Medal has this year attracted six competitors, the design being for a roof of a picture gallery. The competition being for construction only, one does not necessarily look for exceptional merit in an artistic sense. It is, however, interesting to find that the best design constructionally is generally also the best artistically, which tends to show that the practical mind can sometimes descend to consider the pleasing of the eye. Or should I reverse the remark?

Of the six designs two only have adopted what is generally accepted as the most satisfac-

tory method of lighting: that is, by continuous skylights along each side, leaving the central portion solid—a rather difficult method to treat successfully.

The selected design, by Mr. L. U. Grace, is shown in a set of careful drawings which would no doubt result satisfactorily in execution. I did not, however, notice any complete drawing of one of the roof trusses, which seems a rather serious omission.

Nearly all the other designs are worthy of notice, though one or two have manufactured difficulties in order to surmount them, not always with conspicuous success. It is hard to imagine why "Groined Barrel" should have made his roof of elliptical section, both inside and out, in solid concrete. Surely a slope on the outer surface would have been much simpler and easier to construct and to cover. Or, again, why "Fleur-de-Lys" should have used an inner and outer roof-principal, both entirely independent of each other. On the whole, however, all the designs reach a high level of merit.

Turning now to those competitions which do not involve design, but which are devoted to the study of old buildings, I am pleased to note that excellent work is again submitted by all competitors. There is evidence of an amount of enthusiasm and love of their art which leads us to look forward hopefully to the future at the hands of those who will shortly be entering upon active practice.

Twelve competitors have entered for the Pugin Studentship, the award being made in favour of Mr. Wontner Smith, who sends an admirable series of sketches and water-colours. The subjects treated are of a comprehensive nature, embracing both Renaissance and Gothic work in England and on the Continent.

Mr. A. Muir and Mr. J. Myrtle Smith receive prizes of £5 5s., and Mr. J. Harold Gibbons honourable mention. All these drawings are of such a high standard of merit that it is difficult to particularise.

The competition for the Silver Medal is one of the most valuable of the series, in that it ensures the careful measurement and delineation of interesting old buildings, thus forming a permanent record which may become of great importance in the future, when the originals shall have succumbed to the hands of the vandal or the ravages of time. For the student, too, there is no work which can give so thorough an insight into the details and methods of the masters of the past as the actual measuring and plotting of the buildings. Sketching is good, but measuring is better. Twelve sets of drawings are submitted, all more or less good, and all of great interest—certainly worthy of much more study than I was able to give them.

The Medal goes to Mr. Gregory, who has an excellent monograph of Bolsover Castle. Mr. Wynn Owen, Mr. Stanley Towse, and Mr. E. F. Reynolds receive £5. 5s. each for drawings of Lindisfarne Abbey, Houghton Hall, and Aston Hall, Warwickshire, respectively.

Among other drawings I note a very interesting study of Emmanuel College Chapel, which is certainly one of the most charming buildings in Cambridge, and which I do not remember to have seen illustrated before. I trust many of these drawings will receive publication in some form.

The interest in the Owen Jones Studentship is fully maintained this year, and it is pleasant to recognise that some of those competitors who have been unsuccessful in former years now come forward with better results. The standard of work is a high one, most of the drawings being admirably executed, and showing considerable mastery over the brush. Whether the colouring is not in some cases formed rather by a desire to produce a pictorial than a truthful effect is open to serious question. I suppose colour is a thing which no two people see alike.

I am also struck by the fact that the large majority of the studies are of mosaic, Della Robbia, and kindred materials, and that there are practically no drawings of painted

decoration, which would probably be of much more practical service. A vast amount of labour has been expended in showing minutely each separate tessera of a floor or roof, and while one cannot but admire the patience and care devoted to the work, it is impossible to avoid a feeling that some of this energy might have been better employed.

Seven sets of studies have been submitted, the Studentship being secured by Mr. E. H. Bennett, while Mr. Percy Nobbs receives £10. 10s., and Mr. McLachlan £5. 5s., all of whom are to be congratulated on their work.

The Essay is for some reason never a very popular competition, and this year only four were received. The subject was "The Employment of the Order in Renaissance and Modern Architecture," a theme which at the present moment should be an attractive and inspiring one. It is unfortunate, however, that it has not proved the case, and more unfortunate still that none of those submitted should be of sufficient excellence to merit the award of the medal. That submitted under the motto "Serlio" (Mr. J. J. Waddell) has, however, been awarded a prize of £10. 10s.

With the Essay my task is finished, and I have only in conclusion to thank you for having listened patiently to my perhaps too lengthy review.

To those students who have been successful I would say: Regard this as but one step on the long road you are treading. You have achieved something. There still remains more than you will ever accomplish.

To those who have not this time been awarded the spoils of victory: There is no cause for discouragement. The fact of having prepared these drawings, and of having seen how others have attacked the same problem, places you in an infinitely better position for the future, and should serve as an incentive to yet another effort.



9, CONDUIT STREET, LONDON, W., 8th Feb. 1902.

CHRONICLE.

The Prizes and Studentships 1902.

The Annual Exhibition of Designs and Drawings submitted for the Institute Prizes and Studentships for the current year was held at the Galleries of the Alpine Club, Savile Row, from the 14th to the 25th January. The visitors' book shows that nearly a thousand persons visited the exhibition during this period. The competitors numbered seventy-nine, and their work was displayed on 387 strainers. The drawings resulting from the tours of Mr. G. A. Paterson, *Owen Jones Student* 1900, and Mr. H. W. Cotman, *Pugin Student* 1901, were hung on screens in the Meeting-room on the occasion of the Presentation of Prizes last Monday.

The Addresses to Students: Sir L. Alma-Tadema on Tradition in Art.

Prior to the delivery of his Address Mr. Slater explained that the President's engagements in India had monopolised the whole of his time during the past two months, and for this reason the task of addressing the Students and presenting the prizes—functions usually performed by the President—had been undertaken by himself as one of the Vice-Presidents.

The Address and Mr. Hare's Review of the Students' Work were received by the Meeting with manifest approval, which later in the evening was given the happiest expression to by Sir L. Alma-Tadema when moving a vote of thanks.

The business of the prize distribution concluded,

Sir LAWRENCE ALMA-TADEMA, R.A. [H.F.], addressing the Meeting, said: It is my great privilege to rise to propose a vote of thanks to our Chairman and to Mr. Hare for the admirable way in which they have enlightened us this evening. I must confess that after the excitement produced by sympathy with the successful students one does not get one's thoughts into order at once, but still I will do my best to give

you my views on the admirable words of our Chairman. The vexed question in architecture nowadays, that there is no style, or that there are too many styles, whichever way you like to put it, only proves the more the great truth that art is but tradition. Egyptian art developed its own tradition, with many original squirts to the right and to the left—but I will not bore you by dwelling on this. I will only say that when the Greeks rose and became the masters of Egypt, that same Egyptian tradition of art brought forth new forms and new combinations. Egyptian art pure and simple, of course, came to an end with its own people; but its principles and its feelings continued to influence the Greeks, and through the Greeks the Romans, and even modern times through the conquests of Napoleon I., for the Empire style took much from the Egyptian feeling in art. So is it that Babylonian art influenced Greek and Roman art. Then we come to the Middle Ages. I was much astonished once to find that the Norman architects believed that they built Roman architecture, and the Renaissance architects in Italy, as in France, as in England, and as in Germany, were convinced that they built Roman architecture. So even the eighteenth-century architects were convinced that their work was Roman. It is with architects as with us painters. When I see the work of a brother artist that seems strange to me, it is so because I have not been attracted by that phase of nature myself, but when by chance the same aspect of nature presents itself to me, I feel at once how right my brother artist is, how manifold art is, and how necessary it is that the development of art should be based upon the tradition handed down to us by our fathers and mothers. I say fathers and mothers, because there are no fathers without grandmothers, and there are no sons without mothers. I believe in the woman being the essential human element. Thus it is that the Madonna is adored, because she was the mother of Christ, and that Lamartine was right in saying, "Without my mother I would not have been what I am;" and I admire the Americans in that they have a fête day for the mother of Washington. That is a bit of sentiment that leads me a little astray, but I think you will understand. Our art is only beautiful because it is human, and if it is human then it cannot be without sentiment. Therefore it is that we must go on by tradition; we must graft upon that trunk of tradition the individual sentiment that is in our calling, through our surroundings in our art, and then, and only then, shall we produce art worthy of the name. It may be that those who live around us, and are not conscious of the sentiment which induces us to produce that phase of art, cannot see that it is original, just as the men of the eighteenth, the seventeenth, and the sixteenth centuries were not conscious that

they produced art characteristic of their own period, and only believed that they built Roman buildings. Now, however, that the sentiment of their time is no longer with us, and that we have ceased to be swayed by their feelings, we are enabled at once to say of a building: "Oh, that is of the first half of such and such a century," or "That is of the second half." I assure you that in the time to come it will be very much the same with what we ourselves have done. We may be a little more changeable, and our quarters of a century may be more varied; but the fact remains. Is not the First Empire style as individual as any other? Is not even the Second Empire style, with its neo-Greek, almost as characteristic of its period? And so it is with our work—we must not judge our modern history too acutely. We are too much in the middle of it to form a judgment. Therefore, let us not speak of making styles; let us try to produce Art under existing conditions. Let us try to do the best, the most appropriate, and the finest that can be done. And in saying so, I think I can best fulfil what is my intention now—viz. to ask you to accord a hearty vote of thanks to our Chairman, and also to Mr. Hare for the excellent report he has given us, in which he explained so well the tendency of the competitions. What we are specially pleased with is the success of the competitions this year, for there is no greater blessing than to know that there are some who will come after us to continue our traditions.

Mr. J. J. BURNET [F.R.S.], in seconding the vote of thanks, expressed his personal acknowledgments to the Chairman, and also to Sir L. Alma-Tadema, for sounding the one particular note as to the necessity for human feeling in art. He would point out to the students who had been cultivating their minds by studies of the past that perhaps the best way to forget a style would be—and must be, if they were to be successful architects—to sink themselves in human necessity. The basis of all architectural expression was that the architect should be in keen sympathy with the people amongst whom he lived, and whose needs he had to embody in his buildings. These needs must have their most careful study, and the refinement of mind and refinement of thought resulting to students by their studies of the past must now be used quite unconsciously in the service of their fellow-men. Thus their minds would be too full of the interests and the needs of the world around them to think of style at all; they would feel that their first duty was to make a building suitable to its purposes, and those purposes would be expressed beautifully and unconsciously because of the cultivated taste acquired by their studies.

The vote of thanks having been carried by acclamation, the Chairman briefly responded on his own and Mr. Hare's behalf, and the proceedings terminated.

The Holborn to Strand Improvement.

The following correspondence has passed between the Council of the Institute and the London County Council:—

Royal Institute of British Architects,
9, Conduit Street, W.
18th December 1901.

G. Laurence Gomme, Esq., the Clerk to the
London County Council.

DEAR SIR,—The Council of the Royal Institute of British Architects having had before them the design published in the *Illustrated London News* of the 30th ult. for the island site of the Holborn to Strand Improvement Scheme, and being struck by its extremely unsatisfactory and unarchitectural character, direct us respectfully to convey to the London County Council an expression of their views on the subject.

They venture to express the hope that the London County Council will not under any circumstances consent to the adoption of a design so unworthy of this important site—a design which, besides possessing many undesirable intrinsic features, would be out of harmony and scale with Somerset House and the neighbouring church of St. Mary-le-Strand.—We are, dear Sir, yours faithfully,

ALEX. GRAHAM, Hon. Secretary.
W. J. LOCKE, Secretary.

London County Council,
County Hall, Spring Gardens, S.W.
22nd January 1902.

The Secretary, Royal Institute of British Architects.

SIR,—I brought your letter of 18th December last, calling attention to the extremely unsatisfactory and unarchitectural character of the design published in the *Illustrated London News* of 30th November for the island site of the Holborn to Strand Improvement Scheme, before the Corporate Property Committee at their meeting on Monday last.

In reply I am directed to inform you that the design in question has not yet formally come before the Council, and that when it does to assure you that it shall receive every consideration, and that due regard will be paid to the architectural features of the buildings erected.—I am, Sir, your obedient servant,

G. L. GOMME,
Clerk of the Council.

The Prize Drawings for Exhibition in the Provinces.

The following selection from the premiated designs and drawings in the Institute Prize Competitions 1901-2 will be exhibited in various parts of the United Kingdom during the next few months under the auspices of the Architectural Societies in alliance with the Royal Institute:—

The Royal Institute Silver Medal (Measured Drawings).—Bolsover Castle (2 strainers) by Mr. F. W. C. Gregory (under motto "Cavendo Tutus"), awarded the Medal and Ten Guineas.—Lindisfarne Priory (1 strainer) by Mr. R. Wynn Owen (under motto "Aidan"), Houghton Hall (1 strainer) by Mr. Stanley Towse (under motto "Inca"), and Aston Hall (1 strainer) by Mr. Edwin F. Reynolds (under device "H" in circle), awarded prizes of Five Guineas each.

The Soane Medallion.—Designs for a Swimming Bath: 3 strainers by Mr. J. B. Fulton (under motto "Iona"), awarded the Medallion and £100; 1 strainer by Mr. L. G. Detmar (under motto "Balneæ") and 1 strainer by Mr. T. A. Moodie (under motto "Tepidarium"), awarded Medals of Merit; and 1 strainer by Mr. E. Vincent Harris (under motto "Io"), awarded Certificate of Honourable Mention.

The Owen-Jones Studentship.—Drawings by Mr. Edward H. Bennett (2 strainers), awarded the Certificate and £100; drawings by Mr. Percy E. Nobbs (1 strainer), awarded Prize of Ten Guineas; and drawings by Mr. J. McLachlan (1 strainer), awarded prize of Five Guineas.

The Pugin Studentship.—Drawings by Mr. C. Wontner Smith (2 strainers), awarded the Medal and £40; drawings by Mr. A. Muir (1 strainer) and Mr. J. Myrtle Smith (1 strainer), awarded prizes of Five Guineas each; and drawings by Mr. J. Harold Gibbons (1 strainer), awarded Certificate of Honourable Mention.

The Tite Prize.—Designs for Royal Memorial Chapel in the Italian Style: 1 strainer by Mr. A. Hutton (under motto "In Memoriam"), awarded Medal of Merit; 1 strainer by Mr. A. R. Gough (under motto "Rex"), 1 strainer by Mr. W. Curtis Green (under motto "Marble"), and 1 strainer by Mr. Cyril E. Power (under device of "Shamrock"), awarded Certificates of Honourable Mention respectively.

The Grissell Gold Medal.—Design for a Roof of a Picture Gallery.—1 strainer by Mr. Lionel U. Grace (under motto "Toby"), awarded the Medal and Ten Guineas.

Testimonies of Study.—Drawings by Messrs. W. E. A. Brown and J. A. Fletcher (*Intermediate Examination*).

The Alexander Thomson Studentship.

This Studentship, value 60*l.*, which is in the gift of the Council of the Glasgow Institute of Architects, was founded in 1880 for the furtherance of the study of ancient classic architecture as practised prior to the third century of the Christian era, and with special reference to the principles illustrated in the works of the late Alexander Thomson. It is competed for every third year, and is open to any architectural student between the ages of eighteen and twenty-five years, a native of and residing within the

United Kingdom. The better to stimulate the study of the styles of architecture specified, the Trustees have divided the programme for the present year's competition into two sections—(1) a Restoration, (2) a Design—intimating that in awarding the prize the first mentioned will be deemed of equal importance with the second, and that in both special consideration will be given to evidences of careful study and exact and sympathetic rendering of the styles prescribed.

The subjects set are:—

I. Restoration of the Octagon Tower of Andronicus Cyrrhestes (or Tower of the Winds) at Athens. Drawings required: (a) Plan and Section, scale $\frac{1}{4}$ -inch to a foot; (b) Elevation, $\frac{1}{2}$ -inch to a foot; (c) Detail of Order at Doorways, with other optional details, scale 6 inches to a foot.

II. Design for a Building to accommodate the Fine Art Department of a University situated in Greece. (The site, style, accommodation, and material are specified in the conditions.) Drawings required: (a) Plan of buildings with approaches, scale $\frac{1}{8}$ -inch to a foot; (b) Front and side (or back) elevations; (c) Longitudinal and transverse sections; (d) Part exterior and interior detailed, scale $\frac{1}{2}$ -inch to a foot, with a selection of the mouldings drawn full size; (e) Perspective view, building not to measure more than 20 inches in width.

Competitors must also submit a drawing from the round shaded, and at least two sheets of architectural sketches.

Should the number of the competitors and the quality of the work submitted warrant it, an additional prize of 20*l.* will be given for the drawings placed second. The competition drawings must be sent to the Secretary of the Glasgow Institute, 115, St. Vincent Street, Glasgow, the last day for sending in being the 26th December next. The successful student will be required to pursue his architectural studies on a sketching tour for a period of three months. Further particulars will be furnished by Mr. C. J. Maclean, Secretary of the Glasgow Institute.

LEGAL.

Concrete Staircases.

ROWTON HOUSES LTD. v. CROW.

Mr. Arthur Crow [F.] sends the following report of the proceedings in this case:—

This case, which was heard by the Tribunal of Appeal on the 21st January, is one of considerable importance on account of the authoritative opinions expressed by the members of the Tribunal, Messrs. J. W. Penfold, A. A. Hudson, and E. A. Gruning, as to the use of granite chippings, coke breeze, and Portland cement in combination with an iron core as materials for the steps of staircases.

The point at issue between the appellant company and the District Surveyor was as to the stability in case of panic of the staircases in the Rowton House, Fieldgate Street,

Whitechapel, which is now approaching completion, and forms the fifth of the series of popular hotels for men with which the names of Lord Rowton and Sir Richard Farrant have for so long been associated.

The staircases in question are three in number and designed on the geometrical principle with open well-holes for light and ventilation. Each flight of steps is 4 feet 6 inches in width, measured from the face of the wall to the iron balusters, and contains in most cases seven steps.

The steps are spandril in section, with square ends pinned 9 inches into the wall. Each step is rebated to the one below and jointed in cement. They are cast in moulds and have two $1\frac{1}{2}$ inch by $1\frac{1}{2}$ inch angle irons in each step. The tread and nosing of the step is formed of granite chippings and Portland cement, 2 inches thick, in the proportions of two of chippings to one of cement. This portion is filled into the moulds first, and the remainder of the step filled in with fine coke breeze and cement in the proportions of three of breeze to one of cement. These steps are built in at the time of the construction of the walls. The quarter-space landings are carried by two 3 inch by 3 inch steel joists to each landing, built into the walls as cantilevers at the same time as the steps, and chases are left to receive the concrete filling, which is put in after the walls are completed. The materials used in the landings are the same in every respect as in the steps, the only difference being the substitution of the steel joists for the angle irons.

The District Surveyor, Mr. Arthur Crow, took exception to this method of construction and intimated to the company's architect, Mr. Harry B. Measures, at the time the plans were submitted to him, that he should require the steps to be supported at their outer ends either by a newel wall or by steel strings. No notice having been taken by the company of this requirement, and no other provision having been made for strengthening the stairs, he served formal notice upon the company and their building manager, requiring them to provide steel strings under the unsupported ends of the stairs throughout the building. From this notice the company appealed to the Tribunal on the ground that "the method of construction adopted was adequate in every respect for the purposes intended."

The appellants were represented by Mr. William Morris, of the firm of Ashurst, Morris, & Co., solicitors, and the respondent by Mr. D. Palmer Andrews, from the Solicitor's Department of the London County Council.

Mr. Morris, after briefly outlining the facts of the case, stated that the staircases in the Rowton Houses at Hammersmith, Newington, and King's Cross had been constructed on exactly the same lines and with the same materials as had been adopted at Whitechapel, and that in neither case had the District Surveyor of those districts raised the slightest objection.

The architect, Mr. Measures, was then called and described the arrangements of the building and the general construction of the staircases. In order to test the strength of the staircases he had had one of the flights containing ten steps loaded with 2,000 glazed bricks weighing 8 lbs. each, giving a total load of nearly $7\frac{1}{2}$ tons, or over 14 cwt. per step. So far as he could see, after forty-eight hours no injurious effect had resulted, but there was a slight crack a few inches long in the plaster soffit at the junction of the flight with the quarter-space landing. This he attributed to the fact that the landings were not put in at the same time as the steps, and that at the point in question there was a dubbing out of the breeze concrete which would lead to an unequal expansion. The flight was strutted up during loading, and, with the exception of about half-an-hour whilst a photograph was being taken, the strutting was left in position but with the wedges either loose or just hand tight. He had estimated the greatest load which it would be possible to place upon the stairs. Assuming

that four men could be packed on each step, and their average weight was 12 stone, this would give 6 cwt. per step, and as under such circumstances no movement could take place the question of an allowance for a live load need not be considered.

In cross-examination Mr. Measures stated that no other test had been applied elsewhere, and the steps were not subjected to any test before they were fixed. The accommodation provided was for over 800 men, and, in case of fire, if one staircase became involved each of the other two would have to afford means of escape for at least 400 men. He thought a staircase on the cantilever principle sufficiently strong for the purpose, but would limit such staircases to a width of 5 feet, with a deeper step 6 feet might be allowed. The metal core was advantageous: it was the last resource in case of fracture. He admitted that in lieu of new angle iron they generally used bedstead irons. He thought there would be complete adhesion of the cement with the iron; the jannapping of the iron would not interfere, as all trace thereof had long since vanished. There might be a crack through the centre of the step owing to the bedstead irons. The steps would not be so strong with bedstead irons as with constructional steel. He could not swear there were two irons in each step, but the manufacture was in the hands of a responsible man. He admitted there were certain cracks in the staircases at Newington, which Mr. Crow had pointed out to him when he visited the building prior to the commencement of the Whitechapel building, but thought these were due to the expansion taking place at different times, owing to the fact that the steps were built in as the walls were carried up and the landings inserted afterwards. The proposed strings would give support to the outer ends of the steps, and would be advantageous in case of special stress. There was no reason for panic in any of their buildings, and no exceptional strain had ever been placed on the staircases.

In reply to Mr. Gruning, Mr. Measures stated that a little breeze concrete was laid on the top of the granite before the angle irons were put in, but the angle irons were near the line of junction.

Mr. G. J. Earle, the company's building manager, gave evidence as to the quality of the various materials used on the works. The cement weighed 112 lbs. per bushel, left four per cent. residue on passing through a 76 by 76 sieve, and would withstand a breaking load of 600 lbs. to the square inch after twenty-eight days. The granite chippings were free from dust and would pass through a $\frac{1}{4}$ to $\frac{1}{2}$ inch mesh. He was not prepared to say what the breaking-weight of the step was. The cracks at Newington were due to the different expansion. In cross-examination as to the test which had been applied at Whitechapel, he admitted that the crack in the dubbing out of the soffit was due to the unusual load. It was not, at the present time, a "constructional crack," but might develop into one. A live load of the same weight might have brought about a failure. The bedstead irons were not tested in any way, nor were they rejected if it were possible to get them into the moulds. The japan had all gone before they received them, and in some cases the rust was dropping off. He could not give the ultimate strain for concrete.

In reply to Mr. Gruning, he said the strain on the stairs would be greatest towards the lowest steps next the quarter-space landings. The steel strings would not be advantageous, as in case of fire they would give way; they could, however, be protected.

Mr. D. P. Andrews, for the respondent, pointed out that there might be latent defects in the staircases, and that for the protection of persons who resorted to this class of building the contingency of a panic should be taken into account. It was intended to accommodate 800 persons, most of whom would be strangers to each other, and many of them without any knowledge of the arrangement of the means of egress from the building. Sections 68 and 80

of the Act seemed to contemplate that the stairs in public buildings should be supported at both ends. It was reasonable to look upon this building as in the nature of the class of buildings contemplated by Section 80 of the Act. The building in question was by definition a "public building," and as such the responsibility for the entire construction was placed by the Building Act upon the District Surveyor, who declined to take the responsibility of passing the construction of the stairs without strings at the outer ends. He drew particular attention to the fact that, by the evidence on behalf of the appellant, it was disclosed that the angle-iron used in the construction of the steps was what is known as bedstead iron and had not been subjected to any test, and submitted that the Tribunal should not take the responsibility of passing the plan when it had been admitted in cross-examination that the strings would afford an additional safeguard against the failure of the stairs from extraordinary stress.

Mr. Crow, the District Surveyor, in his evidence stated that whilst the plans of the building were under consideration he had, at Mr. Measures' request and in his company, made a careful inspection of the Rowton House at Newington, paying special attention to the staircases. He pointed out certain settlements or open joints in the flights of steps where they joined the landings, and told Mr. Measures he should require both ends of the steps of the proposed building to be supported. He considered the projection of 4 feet 6 inches was too great for this form of staircase and that the steps were liable to snap off close to the wall, in which case the angle irons would be liable to draw out. He then dealt with the evils which were likely to arise from the employment of two different mixtures of concrete in the same step. The greater density of the granite, coupled with the larger proportion of cement used in forming the tread, would be likely to cause a greater expansion than would take place with the breeze concrete forming the body of the step, and a want of complete homogeneity would ensue. This evil was accentuated by the close proximity of the upper flanges of the angle irons to the line of junction of the two different kinds of concrete, and by the fact that the expansion of the cement was not confined to the time of setting, but extended over a period of many months.

In reply to Mr. Gruning he thought the presence of an iron core was objectionable on account of the greater expansion and contraction which would take place in the metal owing to variations in temperature. Short steps under 3 feet in length he thought would be better without a core, but in long steps the presence of a steel core might give greater flexibility to the steps and render them less liable to fracture under a cross strain. After deprecating the use of coke breeze as an aggregate for concrete when required to withstand a severe transverse strain, Mr. Crow went into his calculations of the load which in time of panic the steps might have to carry. He allowed three men to each step, and assumed the average weight of a man to be 11 stone. This gave $4\frac{1}{2}$ cwt. As, however, the mass would be in motion the load must be doubled to obtain the equivalent live load, making $8\frac{1}{2}$ cwt., which together with the weight of the step (2 cwt.) would give a total of $10\frac{1}{2}$ cwt. for each step. He then dealt with the question of the factor of safety and suggested that with such uncertain conditions as existed in a step composed of the various materials described the factor of safety should not be less than five or six, which would give at least 50 cwt. as the breaking load for which each step should be calculated. He drew attention to the fact that the test actually applied did not nearly approach this figure, being in fact little more than half as much again as the load which might be placed upon the steps in time of panic. He suggested that the deflection which had taken place under the test, as shown by the cracking or opening of the joint, indicated that a sufficient margin of

stability had not been allowed. The provision of steel strings would convert each step from a cantilever into a small girder, and thus materially increase its strength.

In cross-examination Mr. Crow stated that he had no fault to find with any other part of the building; precautions had been taken to prevent the spread of fire. The floors were of iron and concrete. Whilst admitting that it would be impossible for the building to be totally destroyed by fire, yet a panic might arise from causes entirely extraneous. He pointed out that adjoining the building was a theatre and other premises, the flames and smoke from which in case of fire would envelop the whole of the back windows of the hotel. When once a man got possessed with the idea that his life was in danger all sense of responsibility left him and he became an unreasoning savage.

Mr. W. G. Perkins, of the Architects' Department, London County Council, gave evidence as to the strains which the steps would have to withstand. He had estimated for a dead load on each step of $5\frac{1}{2}$ cwt., which would cause a bending moment of 16,632 inch lbs. The steps being cantilevers, the portion of the step above the neutral axis would be in tension, and the load he had estimated would give a tensile strain on the tread of the step of 180 lbs. per square inch. This was omitting the iron core, the value of which, for the reasons given by other witnesses, was uncertain. The strength of the granite and cement concrete forming the tread he had taken at 100 lbs. to the square inch, upon which basis the stresses in the steps under the assumed load were very much too high. The combination of two different kinds of concrete rendered it difficult to make reliable calculations. The matter was further complicated by the presence of the bedstead irons and the spandril section of the steps. The form of the staircase would tend to set up a torsional strain. He had carefully considered the question, and was of opinion that sufficient margin of stability had not been allowed.

At this stage the further hearing was adjourned in order to allow the Tribunal to inspect the building, which they did on Monday, the 27th January, when they were shown over the building by Sir Richard Farrant and the architect. Upon examining the flight of steps which had been subjected to the test it was found that the plaster soffit was breaking away at the point where the upper step abutted upon the quarter-space landing, and that the joint between the step and the landing had opened throughout nearly its entire length. So far as could be seen, there was no fracture in either the steps or the landing, and with the exception of the damage to the plaster soffit and the open joint the flight appeared to be sound.

After the inspection an adjournment was made to the reading-room, where the decision of the Tribunal was given.

Mr. Penfold stated that the Tribunal had with considerable regret come to the unanimous conclusion that the staircases were faulty in construction. They were reluctant to come to this decision on account of the general excellence of the work shown in the rest of the building. They directed that further steel joists be placed under each of the main landings, and that bent steel strings be carried from thence under each flight of steps and under the quarter-space landings, and the ends pinned into the external walls. The details of the steelwork would be subject to the approval of the District Surveyor, with leave to the company to apply in case of a further difference arising.

Mr. Hudson expressed his opinion that the margin of safety allowed in the present case was not nearly sufficient, and pointed out that considerable allowance should be made for the uncertain action of Portland cement. Even when the greatest care had been exercised in the manufacture and proper precautions taken for cooling, the

carelessness of a workman in mixing the cement might cause serious latent defects.

Mr. Gruning strongly condemned the system of using coke breeze for the body of the step with a facing of granite chippings and cement. Concrete steps should be absolutely homogeneous, and in this respect he looked upon an iron core as a source of weakness rather than of strength, the oxidation and expansion of the metal tending to cause disruption of the materials. He would prefer steel wires embedded in the concrete, and considered that the steel joists of the main landings should have been placed underneath the landings instead of being embedded in their thickness, as the mode of construction adopted caused too great a severance in the body of the concrete very near to the edges of the landings on which the bottom step of each flight rested. He fully endorsed Mr. Penfold's expressions with regard to the general excellence of the work.

MINUTES. VI.

At the Sixth General Meeting (Business and Ordinary) of the Session 1901-1902, held Monday, 3rd February 1902, at 8 p.m., Mr. John Slater, B.A. Lond., Vice-President, in the Chair, with 21 Fellows (including 12 members of the Council), 24 Associates (including 3 members of the Council), 2 Hon. Associates, and visitors, the Minutes of the meeting held 20th January [p. 148] were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted by the Chairman and signed the register—viz. Frederick Dare Clapham and Lionel Gordon Detmar.

The decease was announced of Walter Green Penty, Fellow, of York.

The following candidates for membership were elected by show of hands under By-law 9, viz.:

AS FELLOWS (4).

JOHN PARKER (Cape Town).
ANDREW NOBLE PRENTICE [A. 1891, *Soane Medallist* 1888].
JOHN ROBERT MOORE-SMITH [A. 1896].
FREDERICK HENRY TULLOCH [A. 1889] (Belfast).

AS ASSOCIATES (34).

CHARLES THOMAS ADSHEAD [Probationer 1894, Student 1897, Qualified 1901, *Ashpitel prizeman* 1901] (Liverpool).
SIDNEY WALTER BENSTED [Probationer 1893, Student 1897, Qualified 1901].
ERNEST GEORGE BESANT [Probationer 1896, Student 1899, Qualified 1901] (Cambridge).
AUSTIN BARUGH BOTTERILL [Probationer 1895, Student 1897, Qualified 1901].
CHARLES ALFRED BROADHEAD [Probationer 1898, Student 1899, Qualified 1901] (Nottingham).
DEAN JOHN BRUNDRIT [Qualified Special Examination June 1901] (Ulverston).
HAROLD BUSBRIDGE [Probationer 1892, Student 1895, Qualified 1901].
RALPH SCOTT COCKRILL [Probationer 1896, Student 1898, Qualified 1901] (Great Yarmouth).
WILLIAM JOHN DEVLIN [Probationer 1891, Student 1896, Qualified 1901].
WALTER ERNEST DOBSON [Probationer 1894, Student 1900, Qualified 1901].
JAMES EWING [Probationer 1897, Student 1898, Qualified 1901].
EDWARD LAWRENCE GAUNT [Probationer 1900, Student 1900, Qualified 1901] (Bradford).
ARTHUR EVERETT GIBBINS [Probationer 1895, Student 1897, Qualified 1901] (Brighton).

FRANCIS ROBERT BOYD HAWARD [Probationer 1898, Student 1900, Qualified 1901] (Great Yarmouth).
RALPH EUSTACE HEMINGWAY [Probationer 1898, Student 1900, Qualified 1901] (Nottingham).
AUGUSTUS EDWARD HUGHES [Probationer 1894, Student 1898, Qualified 1901].
ALLEN TREVIS HUSSELL [Qualified 1901, *Special Examination*] (Ilfracombe).
ERNEST WILLIAM LEES [Probationer 1892, Student 1896, Qualified 1901].
EDWARD BERKS NORRIS [Probationer 1897, Student 1899, Qualified 1901] (Birmingham).
LEONARD RYCROFT OAKES [Probationer 1896, Student 1899, Qualified 1901].
HAROLD FREDERIC PONTON [Probationer 1894, Student 1897, Qualified 1901].
CYRIL EDWARD POWER [Qualified *Special Examination* 1901; *Soane Medallist* 1900].
WILLIAM BEDDOE REES [Probationer 1898, Student 1900, Qualified 1901] (Cardiff).
CHARLES HERBERT REILLY, M.A. Cantab. [Probationer 1896, Student 1898, Qualified 1901].
ERNEST GEORGE RODWAY [Probationer 1895, Student 1897, Qualified 1901] (Bristol).
ANDREW SHARP [Qualified *Special Examination* Montreal 1901] (Montreal).
GEORGE LISTER THORNTON SHARP [Probationer 1897, Student 1900, Qualified 1901].
WILLIAM SLATER [Probationer 1889, Student 1893, Qualified 1901] (Nottingham).
FRANCIS DANBY SMITH [Probationer 1894, Student 1898, Qualified 1901].
WALTER STEPHEN TUCKER [Probationer 1895, Student 1896, Qualified 1901] (Newmarket).
ARTHUR HALCROW VERSTAGE [Probationer 1894, Student 1897, Qualified 1901] (Godalming).
EDWIN PAUL WHEELER [Probationer 1893, Student 1896, Qualified 1901].
JOSEPH ALFRED WOORE [Probationer 1895, Student 1897, Qualified 1901] (Derby).
EDMUND LIVINGSTONE WRATTEN [Probationer 1897, Student 1899, Qualified 1901].

The following applicant for Associateship, found by the Council to be eligible and qualified according to the Charter and By-laws, was recommended for election—viz. Charles Henry Gage [Probationer 1894, Student 1896, Qualified 1901].

The Chairman announced that the Council proposed to submit to His Majesty the King the name of Mr. J. F. Bentley as a fit recipient of the Royal Gold Medal 1902, for his executed works as an architect.

The Chairman delivered an Address to Students, and Mr. H. T. Hare [F.] read a Paper reviewing the Works submitted for the Prizes and Studentships 1902.

The Chairman presented the various prizes in accordance with the Deed of Award [pp. 143-145] and introduced the Travelling Students for the year.

The following presentations were made to past year's Travelling Students, whose work had been approved by the Council:—

Certificate to Mr. George Andrew Paterson, Owen Jones Student 1900.

The Godwin Medal to Mr. Sydney Kyffin Greenslade [A.], *Godwin Bursar* 1900.

Silver Medal to Mr. Henry William Cotman, *Pugin Student* 1901.

On the motion of Sir L. Alma-Tadema, R.A. [I.F.], seconded by Mr. J. J. Burnet, A.R.S.A. [F.], a vote of thanks was passed by acclamation to the Chairman for his Address and to Mr. Hare for his Review of the Drawings.

The Chairman having made brief acknowledgment the proceedings closed and the Meeting separated at 9.15.

